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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/980,364	04/08/2002	Kim Boutiler	270.62USWO	1427
23552	7590	06/16/2005	EXAMINER	
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				ART UNIT
				PAPER NUMBER
				1638

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/980,364	BOUTILER ET AL.
	Examiner	Art Unit
	Stuart F. Baum	1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 24 March 2005.  
 2a) This action is FINAL. 2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 3-36 and 38-76 is/are pending in the application.  
 4a) Of the above claim(s) 5, 18, 28-36, 54-58 and 61-74 is/are withdrawn from consideration.  
 5) Claim(s) 75 and 76 is/are allowed.  
 6) Claim(s) 1-4, 6, 7, 10-17, 19-27, 38-53, 59 and 60 is/are rejected.  
 7) Claim(s) 8 and 9 is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 30 November 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) <input type="checkbox"/> Notice of References Cited (PTO-892)	4) <input type="checkbox"/> Interview Summary (PTO-413)
2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. ____.
3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____.	5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)
	6) <input type="checkbox"/> Other: ____.



**DETAILED ACTION**

1. The amendment filed 3/24/2005 has been entered.  
Claims 3-36, and 38-76 are pending.  
Claims 1-2 and 37 have been canceled.  
Claims 75-76 have been newly added.  
Claims 5, 18, 28-36, 54-58, and 61-74 are withdrawn for being drawn to non-elected inventions.
2. Claims 3-4, 6-17, 19-27, 38-53, 59-60, and 75-76 are examined in the present office action.
3. Rejections and objections not set forth below are withdrawn.
4. The text of those sections of Title 35, U.S. Code not included in this office action can be found in a prior office action.

***New Matter***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 3-4, 6-7, 10-17, 19-27, 38-53 and 59-60 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims have been amended to recite “a nucleotide sequence that has at least 95% sequence identity” to “SEQ ID NO:1” or to “SEQ ID NO:3”, or “an isolated DNA molecule encoding a protein having at least 95% sequence identity with SEQ ID NO:2” or with “SEQ ID NO:4”. Applicants contend that page 22, line 21 of the specification provides support for the above recitation. The office contends that the designated location recites 95% nucleotide similarity between BNM3 and AtBBM. The Office contends that said recitation does not support the newly amended claims as recited above. Applicants are required to point to support for the above recitations or to amend the claims to delete the NEW MATTER.

*Written Description*

6. Claim 3 remains rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is maintained for the reasons of record set forth in the Official action mailed 9/24/2004. Applicant’s arguments filed 3/24/2005 have been fully considered but they are not persuasive.

Applicants contend that the current specification clearly provides written description for the genus of isolated DNA molecules encoding polypeptides as defined in SEQ ID NO:2 or 4 (page 16, 3<sup>rd</sup> paragraph). Applicants also contend that the Written Description Guidelines, in particular, Example 14, gives as an example a claim to a protein and variants thereof, that are at least 95% identical to that protein, and having the same function. Applicants contend that the synopsis also sets forth the premise that the specification provides an assay for detecting the

catalytic activity of the protein and that the current specification provides for methods to analyze the function of the encoded polypeptides. Applicants contend that on page 29 of the specification, transgenic explants constitutively expressing a protein of this invention will be able to regenerate in the absence of added growth regulators (paragraph bridging pages 16-17).

The Office contends that applicants' claim is drawn to an isolated DNA molecule that exhibits 95% sequence identity to SEQ ID NO:1 or 3. Given that SEQ ID NO:1 is 2014 bp's, a sequence exhibiting 95% sequence identity to SEQ ID NO:1 could have as many as 100 bp changes, which would result in a protein having 100 amino acid changes, and the resultant protein would exhibit 83% sequence identity with the protein of SEQ ID NO:2. Applicants have not provided a representative number of polynucleotides encoding polypeptides exhibiting 83% sequence identity to either SEQ ID NO:2 or 4 and still maintain the same activity as the protein encoded by SEQ ID NO:1 or 3. In addition, applicants have not disclosed essential regions of the claimed genus.

#### *Scope of Enablement*

7. Claims 3, 22-24, 38-43, and 46-50 remain rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an isolated DNA molecule comprising SEQ ID NO:1 encoding SEQ ID NO:2 or SEQ ID NO:3 encoding SEQ ID NO:4, or a nucleic acid molecule encoding a protein exhibiting at least 95% sequence identity to SEQ ID NO:2 or 4; or a vector comprising said isolated DNA molecule operably linked to a promoter and plant transformation therewith, and method of producing asexually derived embryos and method for increasing the regenerative capacity of a plant comprising transforming a plant with said vector,

does not reasonably provide enablement for any isolated DNA molecule that exhibits 95% sequence identity to SEQ ID NO:1 or 3, a vector comprising said DNA molecule operably linked to any promoter and plant transformation therewith, and method of producing gametophytic embryos, haploid parthenogenesis of the embryo sac or diplospory or method of selecting a transformed plant comprising transforming a plant with said DNA molecule; method of producing asexually derived embryos or method of modifying the regenerative capacity of a plant, comprising transiently transformation of a plant cell with said isolated DNA molecule; or method of producing an apomictic plant comprising transforming a plant with said DNA molecule and transformed plants are assayed for gametophytic embryos or parthenogenesis of the embryo sac. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. This rejection is maintained for the reasons of record set forth in the Official action mailed 9/24/2004. Applicant's arguments filed 3/24/2005 have been fully considered but they are not persuasive.

Applicants contend that for the development of the cells to be altered in accordance with the invention, the introduced DNA need not be stably transferred to progeny cells (page 18, 1<sup>st</sup> full paragraph). Applicants contend that BNM3 as a transcriptional activator can initiate a developmental cascade in plant cells, and once initiated, the BNM3 activator need no longer be there. Hence, the cascade may arise as a result of the transient expression of BNM3 from the transiently introduced vector (page 18, 2<sup>nd</sup> full paragraph).

The office contends that Applicants are not enabled for a method of producing asexually derived embryos comprising transient expression of Applicants' nucleic acid. Applicants'

method involves growing modified plant cell to produce tissue and assaying said tissue for asexual embryo formation. To be able to produce asexual embryos from a tissue derived from a cell, all the cells of the tissue have to contain the introduced DNA and the cells have to express the introduced DNA. If a cell is transiently transformed with a nucleic acid, by definition, the daughter cells of the original cell will not contain the introduced DNA. Therefore, the tissue made up of the daughter cells will not contain the introduced DNA and will not have the ability to produce somatic embryos.

8. Claims 3, 4, 6-17, 19-27, 38-53, 59-60, and 75-76 are deemed free of the prior art, given the failure of the prior art to teach or reasonably suggest an isolated DNA molecule of SEQ ID NO:1 or 3 encoding SEQ ID NO:2 or 4, respectively, a vector comprising said molecule operably linked to a promoter and plant or plant cell transformed therewith.

9. Claims 8 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. Claims 75 and 76 are allowable.

11. Claims 1-4, 6-7, 10-17, 19-27, 38-53, and 59-60 are not allowable.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stuart F. Baum whose telephone number is 571-272-0792. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on 571-272-0804. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-1600.

Stuart F. Baum Ph.D.  
Patent Examiner  
Art Unit 1638  
June 8, 2005



AMY J. NELSON, PH.D  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600